What is claim d is:

1. A method for self-writing track locations of a storage surface of a data disk of a disk drive, comprising the steps of:

(a) self-writing first servo bursts along a circular track via a transducer and determining a first position error signal indicating repeatable runout due to mis-positioning of said first servo bursts;

(b) calculating a runout correction value based on the first position error signal; and

(c) storing the runout correction value for the first servo bursts in a corresponding servo sector while self-writing track locations.

2. The method of claim 1, wherein:

in step (a) self-writing servo bursts further includes the steps of self-writing second servo bursts along the track via the transducer, and determining a second position error signal indicating repeatable runout due to mis-positioning of said second servo bursts, wherein the first and second servo bursts form servo sector patterns that define the track centerline;

in step (b) calculating a runout correction value further includes the steps of calculating the runout correction value based on the first and second position error signals; and

in step (c) storing the runout correction value, further includes the steps of storing the runout correction value for the first and second servo bursts in a corresponding servo sector while self-writing track locations.

3. The method of claim 2, wherein each servo sector pattern includes a trimmed burst pattern.

4. The method of claim 3, wherein:

self-writing the first servo bursts in each servo sector pattern further includes the steps of writing two servo bursts wherein one of the servo bursts trims the other servo burst, defining a first seam, wherein the first position error signal indicates repeatable runout due to mis-positioning of the first seam; and

self-writing the second servo bursts in each servo sector pattern further includes the steps of writing two servo bursts wherein one of the servo bursts trims the other servo burst, defining a second seam, wherein the second

position error signal indicates repeatable runout due to mis-positioning of the second seam.

5. The method of claim 4, wherein each servo sector pattern includes a trimmed burst pattern comprising four radially offset, circumferentially staggered, servo bursts.

6. The method of claim 2, wherein each servo sector pattern includes a un-trimmed burst pattern.

7. The method of claim 1, wherein in step (a) determining the first position error signal further includes the steps of determining a first instantaneous position error signal indicating said repeatable runout while self-writing the first servo bursts.

8. The method of claim 7, wherein:

step (a) further includes the steps of recording the first instantaneous position error signal obtained while self-writing the first servo bursts; and

in step (b) calculating the runout correction value further includes the steps of using the recorded first instantaneous position error signal to calculate the runout correction value.

9. The method of claim 2, wherein determining the second position error signal further includes the steps of determining a second instantaneous position error signal indicating said repeatable runout while self-writing the second servo bursts.

10. The method of claim 9, wherein:

step (a) further includes the steps of recording the second instantaneous position error signal obtained while self-writing the second servo bursts; and

in step (b) calculating the runout correction value further includes the steps of using the recorded first and second instantaneous position error signals to calculate the runout correction value.

11. The method of claim 1, wherein the data disk includes a reference pattern providing position information for self-writing the first servo bursts, the method further including the steps of generating the first position error signal based on the position information from the reference pattern.

12. The method of claim 11, wherein the step of generating the first position error signal based on the

reference pattern further includes the steps of reducing any existing repeatable runout in the position information that is obtained from the reference pattern to obtain enhanced first position error signal.

13. The method of claim 2, wherein the data disk includes a reference pattern providing position information for self-writing the first and second servo bursts, the method further including the steps of generating the first and second position error signals based on the position information from the reference pattern.

14. A method for self-writing track locations of a storage surface of a data disk of a disk drive, comprising the steps of:

(a) self-writing servo bursts along a circular track via a transducer;

(b) determining a position error due to repeatable runout at one or more points along the track addressed by the transducer;

(c) calculating a runout correction value from the position error; and

(d) storing the runout correction value for each of said points in a corresponding servo sector while self-writing track locations.

15. The method of claim 14, wherein:

in step (b) determining a position error further includes the steps of determining position errors due to repeatable runout at each of a plurality of points along the track;

in step (c) calculating a runout correction value further includes the steps of calculating runout correction values from the position errors; and

in step (d) storing the runout correction value further includes the steps of storing the runout correction values for the plurality of points in corresponding servo sectors.

16. The method of claim 14, wherein:

in step (a) self-writing the servo bursts further includes the steps of determining an instantaneous position error signal due to repeatable runout at each of said points along the track while self-writing the servo bursts;

in step (b) determining a position error further includes the steps of determining the position error based on the instantaneous position error signal.

17. The method of claim 16, wherein:

step (b) further includes the steps of recording the instantaneous position error obtained while self-writing the servo bursts; and

in step (c) calculating a runout correction value further includes the steps of using the recorded instantaneous position error to calculate the runout correction value.

18. The method of claim 15, wherein:

in step (d) storing the runout correction values further includes the steps of storing the runout correction value for each of the plurality of points in a corresponding servo sector while self-writing servo bursts along the track.

19. The method of claim 15, wherein:

in step (d) storing the runout correction values further includes the steps of storing the runout correction value for each of the plurality of points in a corresponding servo sector after self-writing servo bursts along the track.

20. The method of claim 14, wherein the data disk includes a reference pattern for determining said position error for self-writing the servo bursts, the method further including the steps of generating the position error based on the reference pattern.

21. The method of claim 20, wherein the step of generating the position error based on the reference pattern further includes the steps of reducing any existing repeatable runout in the position error information that is obtained from the reference pattern to obtain enhanced position information, and using the enhanced position information as said position error.

22. A method for self writing track locations of a storage surface of a data disk of a disk drive, wherein the data disk includes a reference pattern for determining position information error for self-writing, the method comprising the steps of:

(a) generating position information based on the reference pattern;

(b) reducing any existing repeatable runout in the position information that is obtained from the reference pattern to obtain enhanced position information, and using

the enhanced position information for self-writing servo bursts;

(c) self-writing servo bursts along a circular track via a transducer;

(d) determining an instantaneous position error signal due to repeatable runout at one or more points along the track while self-writing the servo bursts;

(e) calculating a runout correction value from the position error signal; and

(f) storing the runout correction value for each of said points in a corresponding servo sector self writing track locations.

23. The method of claim 22, wherein:

step (c) further includes the steps of recording the instantaneous position error signal obtained while self-writing the servo bursts; and

in step (d) calculating a runout correction value further includes the steps of using the recorded instantaneous position error signal to calculate the runout correction value.

24. The method of claim 22, wherein:

in step (d) determining an instantaneous position error signal further includes the steps of determining an instantaneous position error signal at each of a plurality of points along the track;

in step (e) calculating a runout correction value further includes the steps of calculating runout correction values from the instantaneous position error signals; and

in step (f) storing the runout correction value further includes the steps of storing the runout correction values for the plurality of points in corresponding servo sectors.

25. The method of claim 24, wherein:

in step (f) storing the runout correction values further includes the steps of storing the runout correction value for each of the plurality of points in a corresponding servo sector while self-writing servo bursts along the track.

26. The method of claim 24, wherein:

in step (f) storing the runout correction values further includes the steps of storing the runout correction value for each of the plurality of points in a corresponding servo sector after self-writing servo bursts along the track.

27. A hard disk drive having servo burst position correction, comprising:

a base;

a data disk comprising a reference pattern for providing position information to self-write final servo patterns in a plurality of data tracks arranged concentrically about a spindle, wherein each of said data tracks is segmented into a plurality of data sectors by servo sectors, wherein said disks may be rotated at a constant velocity with respect to said base;

a transducer for reading information from said data disk and for writing information to said data disk, wherein said transducer is movable in a radial direction with respect to said disk to address a selected one of said plurality of data tracks;

a voice coil motor, interconnected to said transducer, for moving said transducer with respect to said data tracks;

a channel for receiving signals, including position error signals, derived from said disk by said transducer; and

a controller, interconnected to said voice coil motor, for controlling a position of said transducer with respect to said reference pattern, wherein the controller writes final servo bursts on the data disk by self-writing

servo bursts along a circular track via a transducer, determining a position error due to repeatable runout at one or more points along the track addressed by the transducer, calculating a runout correction value from the position error, and storing the runout correction value for each of said points in a corresponding servo sector while self writing track locations.

28. The disk drive of claim 27, wherein the controller further determines position errors due to repeatable runout at each of a plurality of points along the track, calculates runout correction values from the position errors, and stores the runout correction values for the plurality of points in corresponding servo sectors.

29. The disk drive of claim 27, wherein the controller further determines an instantaneous position error signal due to repeatable runout at each of said points along the track while self-writing the servo bursts, wherein the position error is a function of the instantaneous position error signal.

30. The disk drive of claim 29, wherein the controller further records the instantaneous position error signal while

self-writing the servo bursts, and uses the recorded instantaneous position error signal to calculate the runout correction value.

31. The disk drive of claim 28, wherein the controller stores the runout correction value for each of the plurality of points in a corresponding servo sector while self-writing servo bursts along the track.

32. The disk drive of claim 28, wherein the controller stores the runout correction values for each of the plurality of points in a corresponding servo sector after self-writing servo bursts along the track.

33. A hard disk drive having servo burst position correction, comprising:

a base;

a disk comprising a plurality of data tracks arranged concentrically about said spindle, wherein each of said data tracks is segmented into a plurality of data sectors by servo sectors, wherein said disks may be rotated at a constant velocity with respect to said base, and wherein each of said tracks has an ideal shape and an actual written shape;

a transducer head for reading information from said data tracks and for writing information to said data tracks, wherein said transducer head is movable in a radial direction with respect to said disk to address a selected one of said plurality of data tracks;

a voice coil motor, interconnected to said transducer head, for moving said transducer head with respect to said data tracks;

a channel for receiving signals, including position error signals and embedded correction values, derived from said disk by said transducer head;

a controller, interconnected to said voice coil motor, for controlling a position of said transducer head with respect to said data tracks, wherein each of said servo sectors in at least a first track contains a plurality of embedded runout correction values stored in that servo sector by: self-writing servo bursts along the first track via the transducer, determining a position error due to repeatable runout at one or more points along the first track, calculating a runout correction value from the position error, and storing the runout correction value for each of said points in a corresponding servo sector.

34. The disk drive of claim 33, wherein the position error is a function of an instantaneous position error signal due to repeatable runout at each of said points along the track while self-writing the servo bursts.

35. The disk drive of claim 34, wherein the instantaneous position error signal is recorded while self-writing the servo bursts, and the recorded instantaneous position error signal is used to calculate the runout correction value.

36. The disk drive of claim 33, wherein runout correction value for each of the points is recorded in a corresponding servo sector while self-writing servo bursts along the track.

37. The disk drive of claim 33, wherein the runout correction value for each of the points is recorded in a corresponding servo sector after self-writing servo bursts along the track.